How to Write a *Highly Competitive* Social Science Grant Proposal

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Give *ME* The Money!

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Where if any wisdom comes from...

Seeking Funding

- National Institutes of Health (NIH)
- National Science Foundation (NSF)
- Institute of Museum and Library Services (IMLS)
- Spencer Foundation

=9 funded grants $

and plenty of ***rejections!***

Reviewing Grants

- Standing NSF panel member (2011-2014), involving 2 meetings per year (2-3 days each) and 27-32 grants reviewed per year
- Panelist for NSF EHR/EDU Core, AISL, DRK-12
- Ad hoc reviews

= over 200 reviews and counting!

+ Teaching and Mentoring Students Writing their Own Proposals

Types of Extramural (External) Grants

- Government Organizations
- Nongovernmental Organizations
- Foundations
- Corporations

Poll

- Have you applied for an external grant? (check all that apply)
  - Yes
  - No
  - Working on a proposal right now
- What granting agencies might be a fit for your work? (check all that apply)
  - National Science Foundation
  - National Institutes of Health
  - Other government agency (e.g., Dept of Education)
  - Nongovernmental agency
  - Foundation (e.g., Spencer, Templeton)
  - Corporation

Roadmap

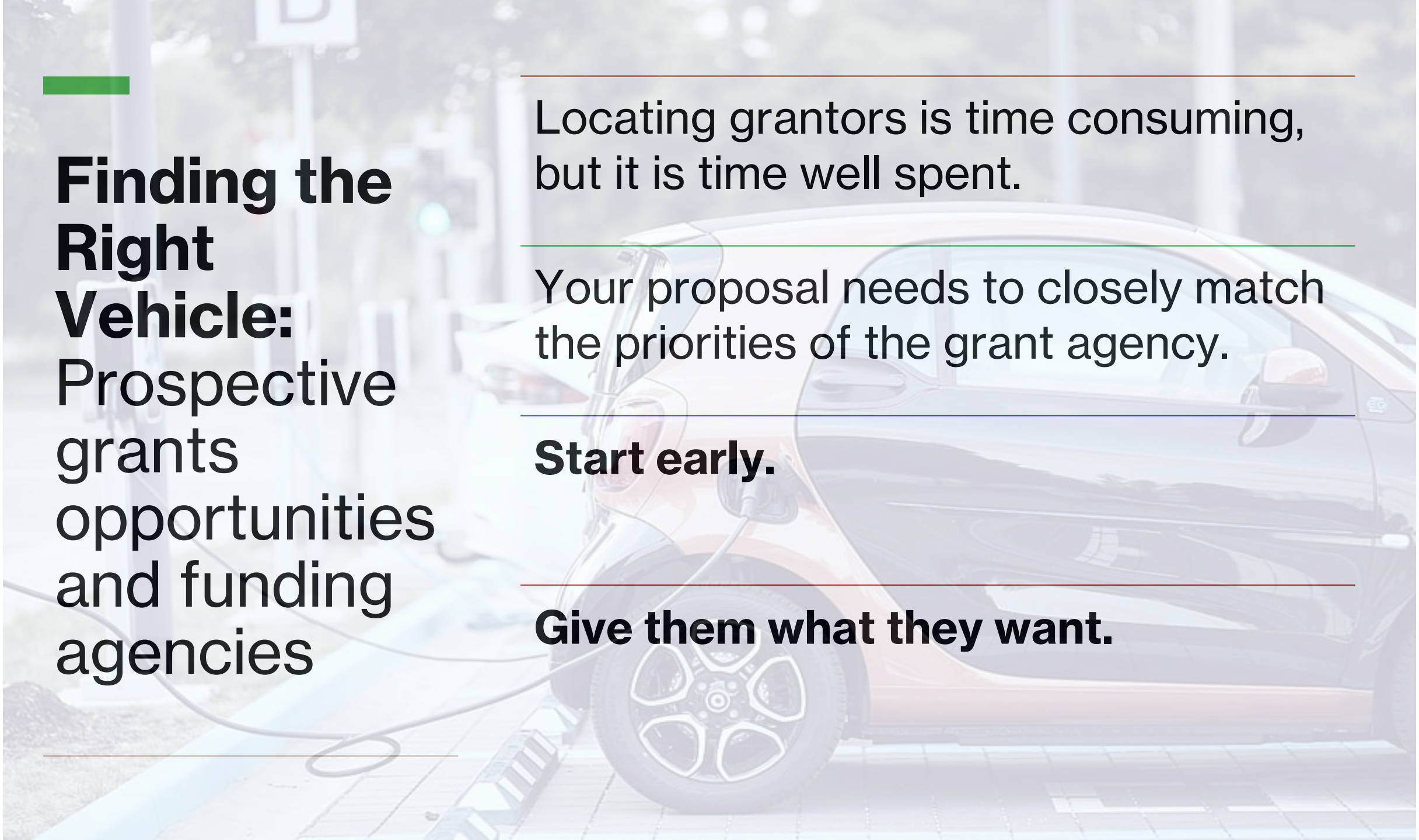
- DAY 1
  - Steps *Before* Writing Your Proposal
  - The *Genre* of Grant Proposals
- DAY 2
  - Constructing Common Parts of a Proposal

Keys to Grant Success

- You must play to win.
- Start early.
- Give them what they want.
- Learn the genre.
- Persistence pays.
- Get inside the process

Steps Before Writing Your Proposal

1. Think up an idea.
2. Find out who might be interested in funding your idea.



Finding the Right Vehicle: Prospective grants opportunities and funding agencies

Locating grantors is time consuming, but it is time well spent.

Your proposal needs to closely match the priorities of the grant agency.

Start early.

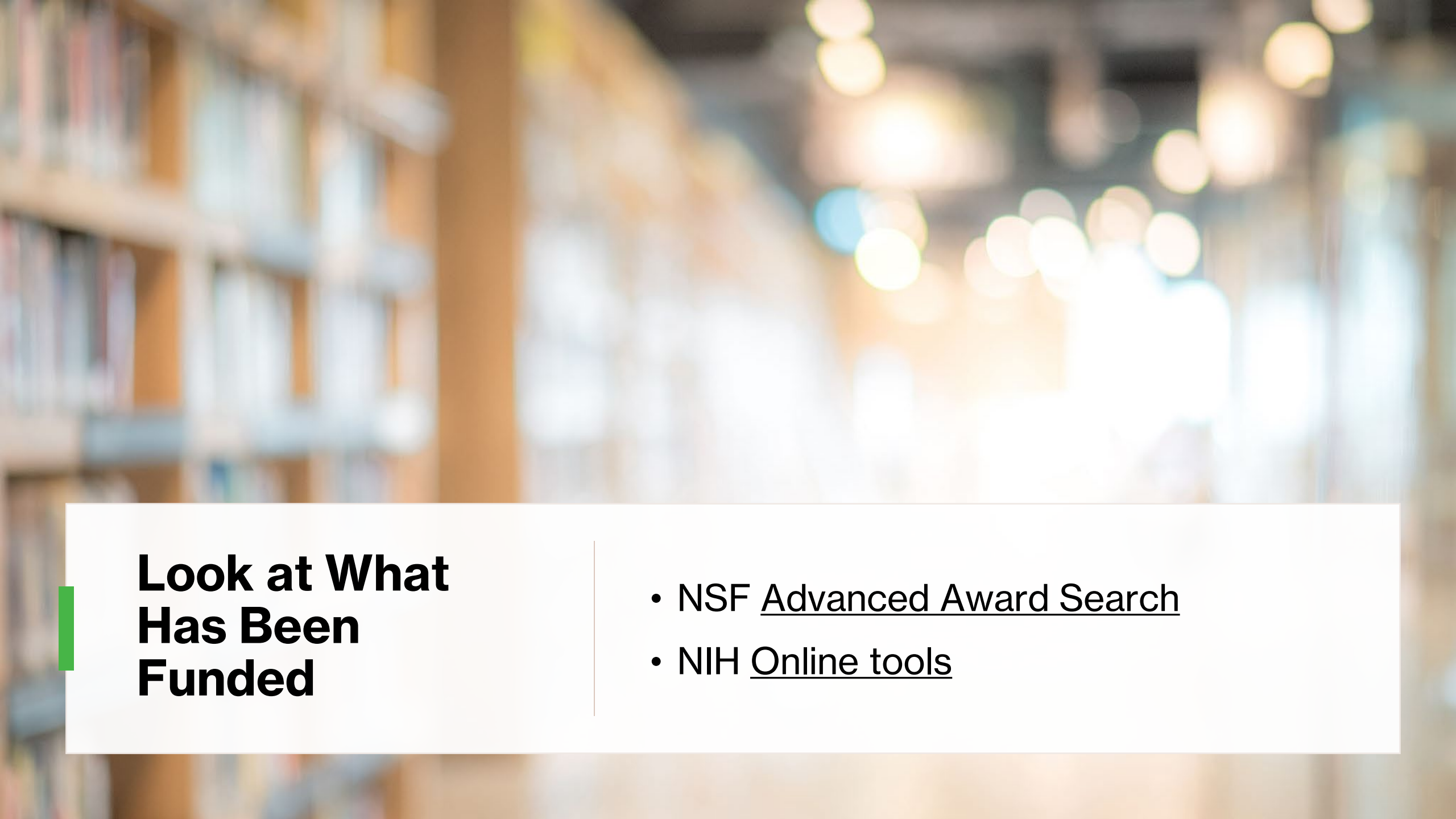
Give them what they want.

Searching for Funding Opportunities

- **LUC Resources**
  - In Office of Research Services PTAP system funding opportunity announcements will be emailed to you when they match the keywords in your Research/Scholarly Interests Profile.
  - The Pivot system
- **Federal Government**
  - https://www.grants.gov/search-grants
  - https://grants.nih.gov/funding/searchguide/index.html#/

Searching for Funding Opportunities (con't)

- **State of Illinois**
  - https://www.dhs.state.il.us/page.aspx?item=149872
- **Foundation Sites**
  - Candid (Foundation Center) https://candid.org/find-nonprofit-funding
  - Grant Station https://grantstation.com/



Look at What Has Been Funded

- NSF Advanced Award Search
- NIH Online tools

Study & Study & Study the Program Solicitation

Give them what they want

Identify All Guidelines Program-Specific and Agency-Wide

Example from NSF:

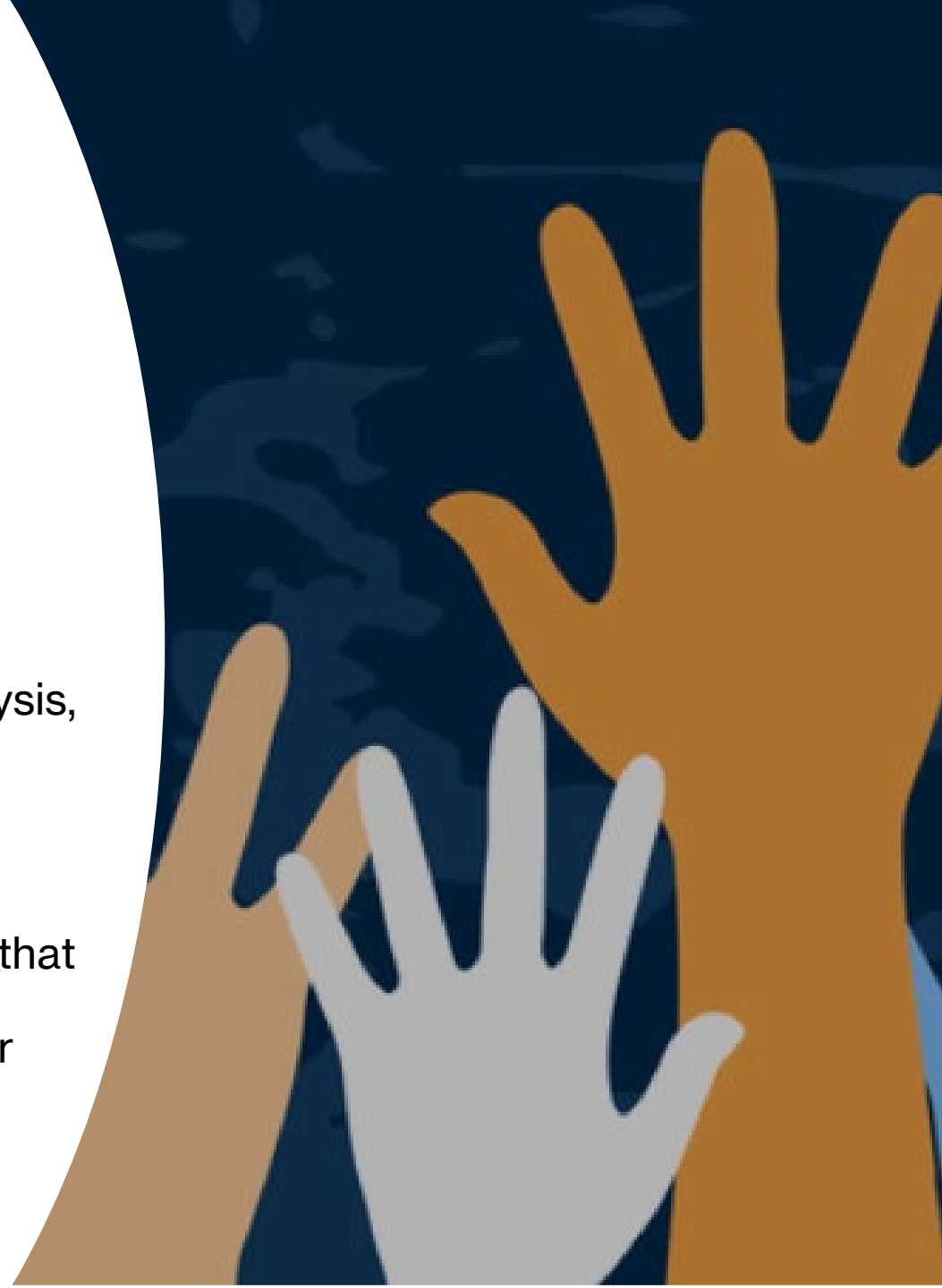
"Any proposal submitted in response to this solicitation should be submitted in accordance with the NSF Proposal & Award Policies & Procedures Guide (PAPPG) that is in effect for the relevant due date to which the proposal is being submitted."

Racial and Ethnic Equity Perspective

When writing proposals, equity shouldn't just be the icing – *Bake It In*!

Racial and Ethnic Equity Perspective

- Staffing
  - Consider proposing staff from multiple backgrounds and cultures, including varied life experiences, races, genders, ethnicities, and socioeconomic classes.
  - Mitigate influence of power differentials in research process
  - Embedding racial and ethnic equity into data collection, analysis, and dissemination.
- Budget
  - Dedicate funding to spend time with communities to build relationships
  - Budget for costs of disseminating research findings in ways that will be effective in reaching community members
  - Resources to equitably compensate communities of color for their engagement.
- Timeline
  - Allow for authentic engagement



More Homework

- **Trainings**
  - https://grants.nih.gov/news/virtual-learning/podcasts.htm
- **Sample Grant Applications**
  - From colleagues
  - From agencies
    - https://www.niaid.nih.gov/grants-contracts/sample-applications-demonstrate-good-grantsmanship
    - NSF: (1) Freedom of Information Act, (2) contact PI, (3) contact Program Officer

Pitching a Proposal

- Find out if the organization requires a ***preproposal.***
- If they don't, consider writing a **1–2-page summary** and send it to a Program Officer (do this at least 2-3 months ahead of the deadline)

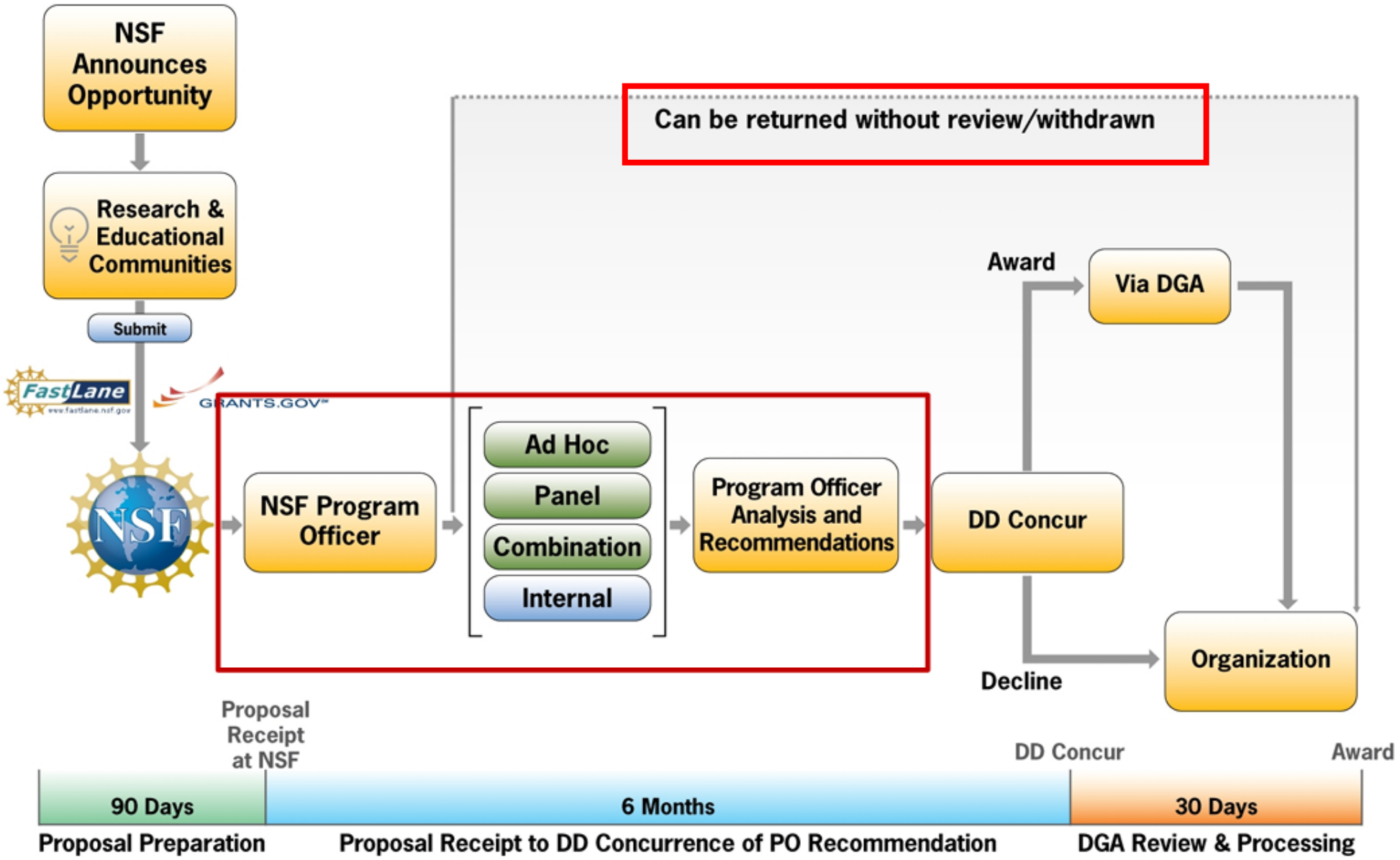
Roadmap

- **DAY 1**
  - Steps *Before* Writing Your Proposal
  - **The *Genre* of Grant Proposals**

The Genre of Grant Proposals

- Grants have a genre, defined in terms of *the* ***audience*** and ***rhetorical force***
- Failing to understand the genre of grant writing is a primary reason why applications aren’t successful

Proposal Review and Processing



INSTITUTES AT NIH

Institutes at NIH

List of Institutes and Centers

Directors of NIH Institutes and Centers

NIH Institute and Center Contact Information

NIH Office of the Director

List of Institutes and Centers

NIH Institutes

National Cancer Institute (NCI) — Est. 1937
NCI leads a national effort to eliminate the suffering and death due to cancer. Through basic and clinical biomedical research and training, NCI conducts and supports research that will lead to a future in which we can prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases.

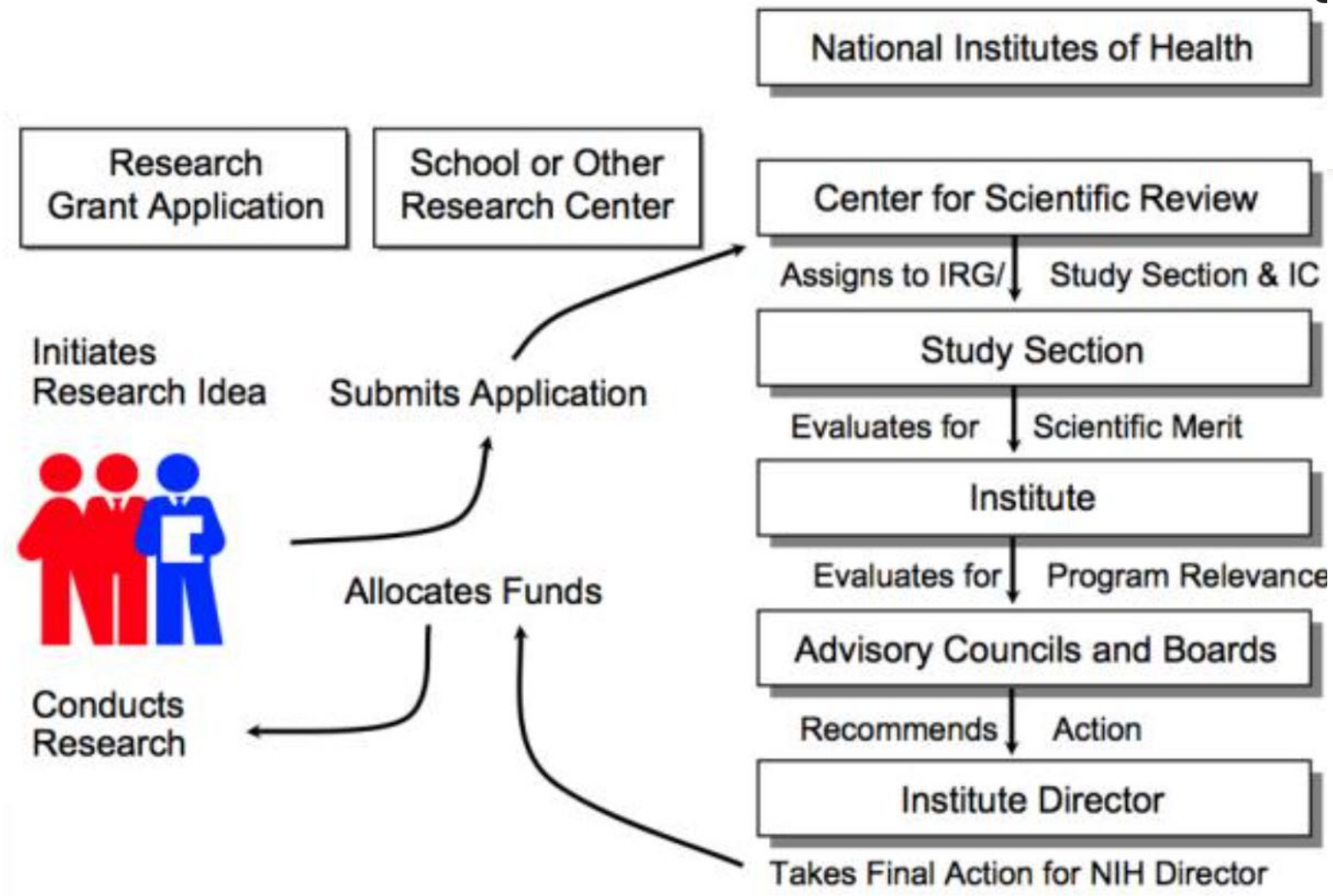
National Eye Institute (NEI) — Est. 1968
The National Eye Institute's mission is to conduct and support research, training, health information dissemination, and other programs with respect to blinding eye diseases, visual disorders, mechanisms of visual function, preservation of sight, and the special health problems and requirements of the blind.

Quick Links

NCI | NEI | NHLBI
NHGRI | NIA | NIAAA
NIAID | NIAMS | NIBIB
NICHD | NIDCD | NIDCR
NIDDK | NIDA | NIEHS
NIGMS | NIMH | NIMHD
NINDS | NINR | NLM
CC | CIT | CSR
FIC | NCATS | NCCIH

https://www.nih.gov/institutes-nih/list-institutes-centers

Review Process for a Grant



Find out who is on the **Study Section**:

https://www.nichd.nih.gov/about/org/dea/srb/study-sections-special-emphasis-panels

Panel Procedures:

Mock review panel video from NIH

Know Your Audience: *How are Reviewers Selected?*

Types

- Reviewers with specific content expertise
- Reviewers with general expertise in the areas/fields supported by the funder

Sources

- Program Officer's knowledge of the field
- Reference list in the proposal
- Former reviewers; grantees
- PI Reviewer recommendations

How to become a Reviewer

- Contact the Program(s) that fit your expertise and introduce yourself. Send a 2-page CV with current contact info. Tell them what program(s) you could review for.

Know your Audience:
How much work does a reviewer do?

- **A LOT!!!!**
- Generally, no more than 12 proposals per reviewer, but usually at least 8
- Proposals are generally sent to panelists one month in advance of panel
- Spend between 15-60 hours reading and writing reviews (average 35 hours)

Reviewers' Motivations

- Learning the ropes
- Service to science
- Keeping current
- Professional networking

On Being a Reviewer: *Impacts on Grant Writing*

- "You learn to put the reviewer's hat on," said one. "You know what the panel is looking for; you can hear their discussion in your head while you're writing."
- "You are exposed to the writing skills of successful PIs and you learn to imitate their best qualities."
- "I used to write to a peer; now I write to a committee. I write to reach both the specialist scholar in my particular field, and the generalists, who make up the majority of the panel. And I make it easy to read, large font (never size 10!), and 1-1/2 line spacing."

Porter, R. (2005). What Do Grant Reviewers Really Want, Anyway?

Grants are Reviewed by People

- *“Don’t bite the hand that feeds you.”*
- *There is nothing new.*
- *We are siloed.*
- *Be humble, so you get served the pie.*

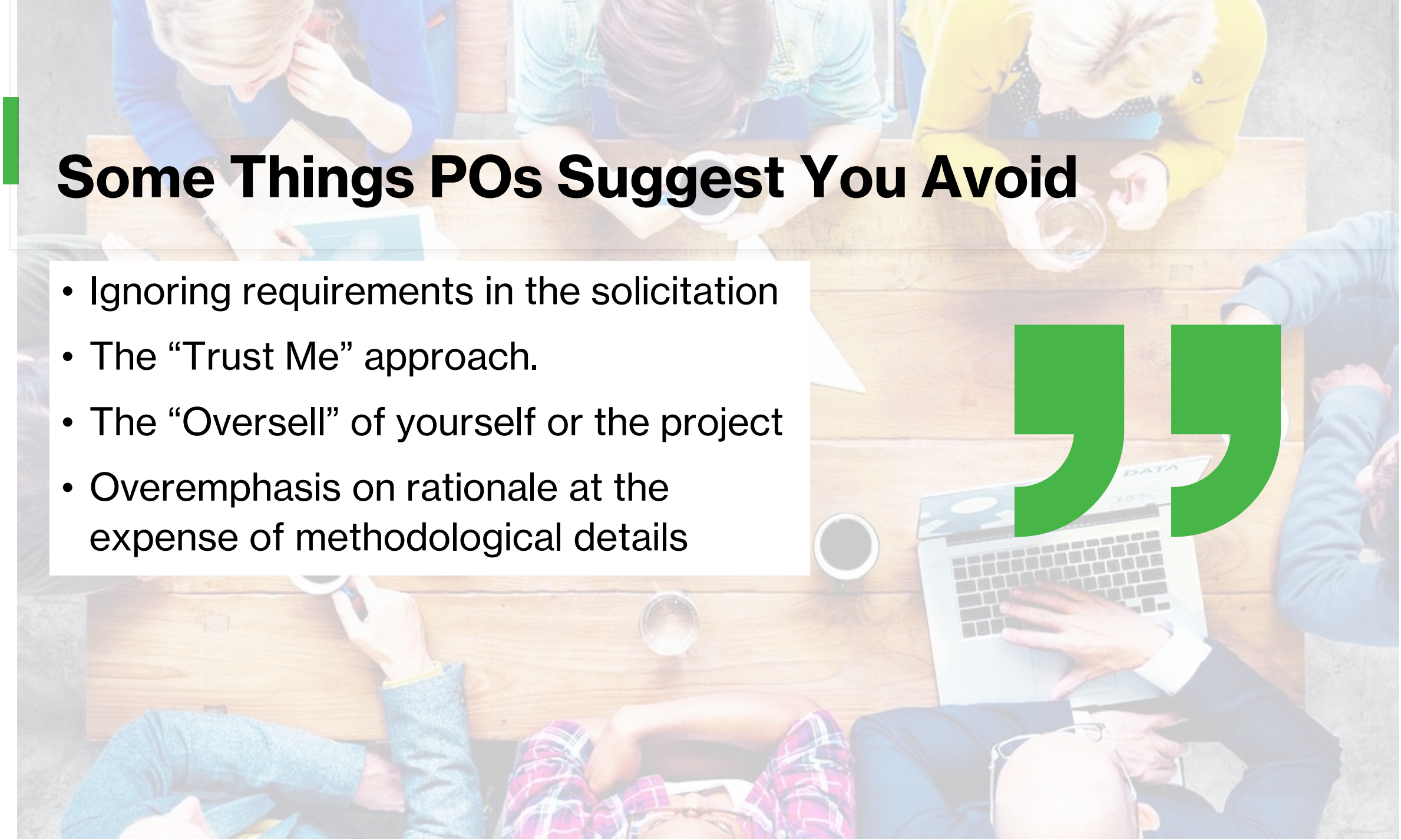
Levenson (2014). *Mistakes that Grant Proposers Make*

Use a Reviewer-Friendly Format

Use the same labels as in the call for proposals.
White space and **bold** headings.
Include figures/tables/diagrams.
An excessive number of words per page does not necessarily make your proposal stronger (and could be disqualifying!).

Some Things POs Suggest You Avoid

- Ignoring requirements in the solicitation
- The “Trust Me” approach.
- The “Oversell” of yourself or the project
- Overemphasis on rationale at the expense of methodological details



Rhetorical Force of Grant Writing

Writing Differences	Academic/Scholarly /Technical Writing	Grant Writing
Goal	Scholarly pursuit, Individual passion	Sponsor goals
Orientation	Past, Work that has already been done	Future, Work that should be done
Rhetoric	Expository, Explaining to the reader	Persuasive, “Selling” the reader, Lively style
Tone	Impersonal, Objective and dispassionate	Personal, Conveys excitement
Length	Few constraints	Strict constraints, Brevity rewarded
Terminology	Specialized, jargon	Accessible language, Abbreviate sparingly

Writing Your Proposal: *Tell Your Story*

1. The question motivating the research is interesting and important

Begins with a puzzle or problem -- the *What?* and the *So what?*

Where/when? -- takes the broad issues raised in *What?* and argues for the specific question(s) your research will be asking; includes the people who have tried to solve the problem in the past, and continues with how you plan to solve the problem/contribute to the solution

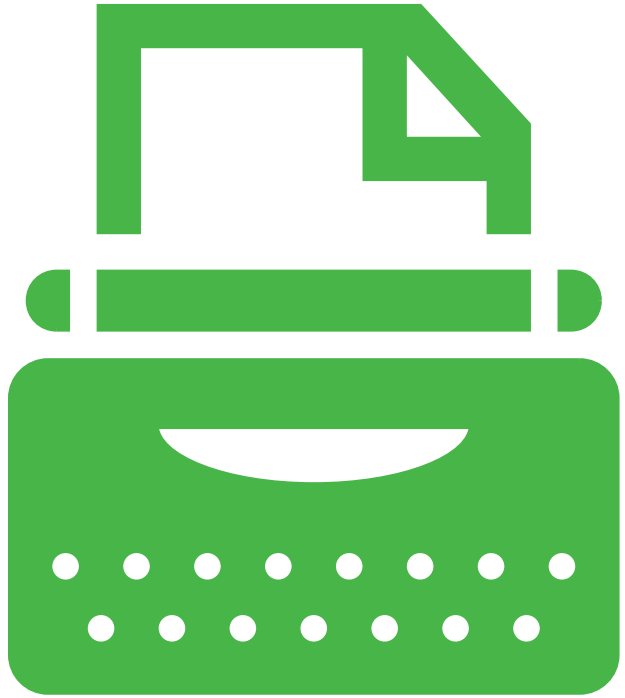
2. The project is feasible

How? – Methods: (1) What are the data sources? (2) How will you obtain the materials/contact the relevant persons? (3) What will you do with the data ? (4) How will these data help you answer your main questions?

3. The PI and team have the expertise or skills necessary to carry out the project

Tell a *Good* Story

- Stick to the main ideas and most important points (there are page limits to your story!)
- Don’t assume your readers will be interested in your story because you are.
- Use a simple, lively style of writing to capture and hold the reviewers’ attention.
- Lay out the key points early.
- Use a clear organization with frequent headings.
- Use visual illustrations.
- Let your light shine.



Roadmap

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  - Steps *Before* Writing Your Proposal
  - The *Genre* of Grant Proposals
- **DAY 2**
  - **Constructing Common Parts of a Proposal**

Common Parts of an NSF Proposal

1. **Project Summary**

The 1-page project summary provides an **Overview** of the proposed activity, a statement of its **Intellectual Merit**, and a statement on its **Broader Impacts**

2. **Project Description**

Typically 15 pages, detailing the problem to be address, why the problem should be addressed, and how the proposer plans to do it, how we know if they will succeed, and what benefits will come if the project is successful

3. **References Cited**

4. **Documents Required for Senior Personnel**
   - Bio sketch
   - Current and Pending
     - SciENcv: Science Experts Network Curriculum Vitae
   - Collaborators and other affiliations
     - https://www.nsf.gov/bfa/dias/policy/coa/coa_template.xlsx

5. **Budget and Budget Justification**
6. **Facilities, Equipment and Other Resources**
7. **Postdoctoral Mentoring Plan (if applicable)**
8. **Data Management Plan**
9. **Appendices (as permitted)**

Budget and Budget Justification

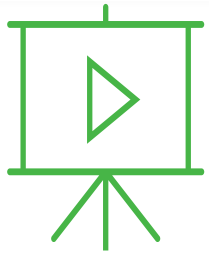
Make sure your budget is allowable, allocable, reasonable, and necessary.

Make sure the budget is justified

Needs to tell the numerical story of your project

Needs to align with your proposal project description

There may be page limits



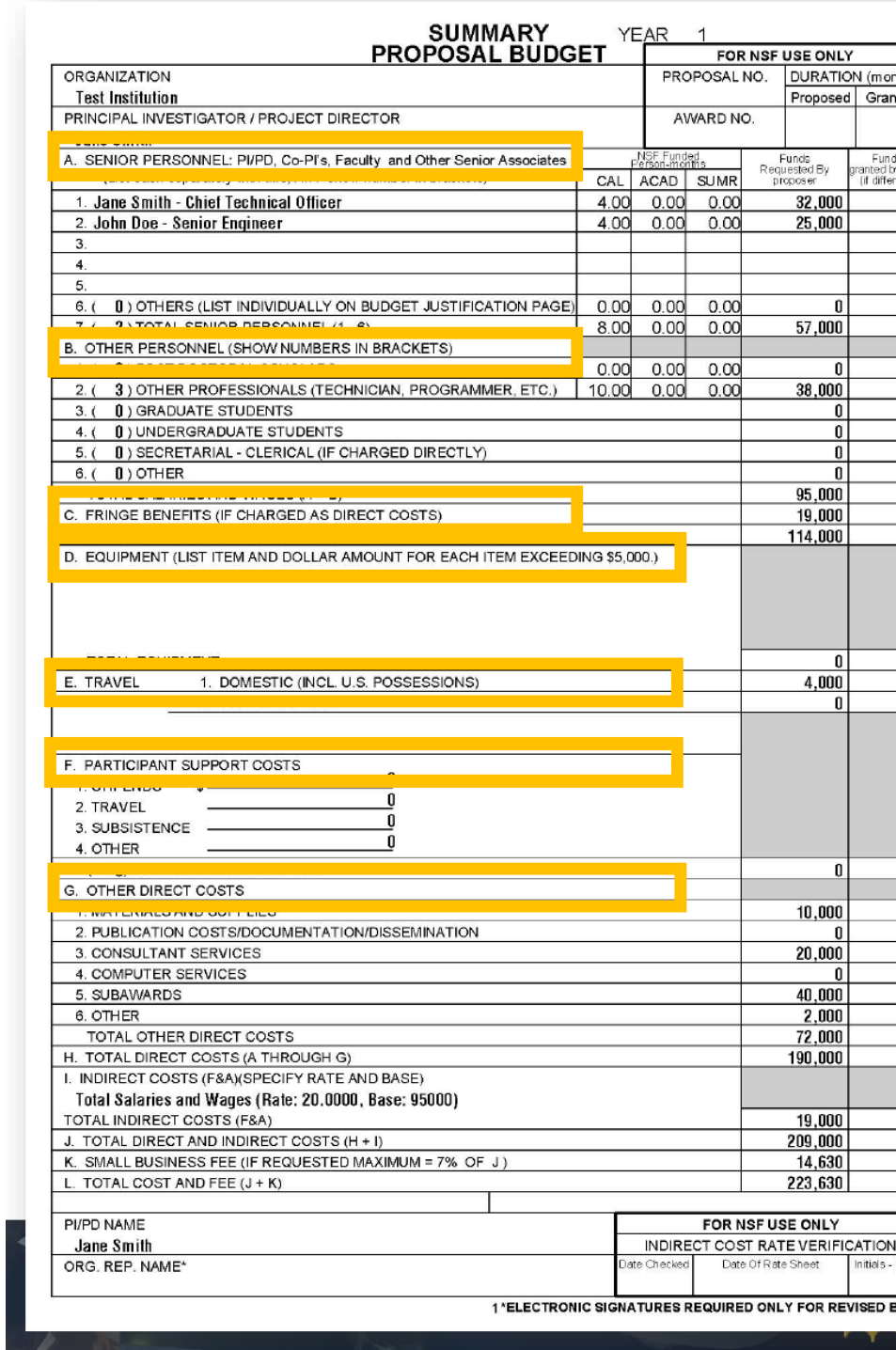
Step by Step through NSF budget resource (suggest starting at 16:15)

Ideas to consider for allocating funds

People-centered	• How are the interests, ideas, & needs of people centered supported financially, including their growth, visibility, and contributions?
Relationships	• What is the nature of the relationship between people & organizations involved? How are people's time and expertise compensated, including rate of pay?
Decision-making	• How are roles & responsibilities delineated? Who makes decisions? Whose input is listened to? Whose is overlooked? Who benefits & how? Who's left out?

Budget

- Allows the reviewers and agency to understand where dollars will go and how they will be spent



SUMMARY PROPOSAL BUDGET YEAR 1

FOR NSF USE ONLY

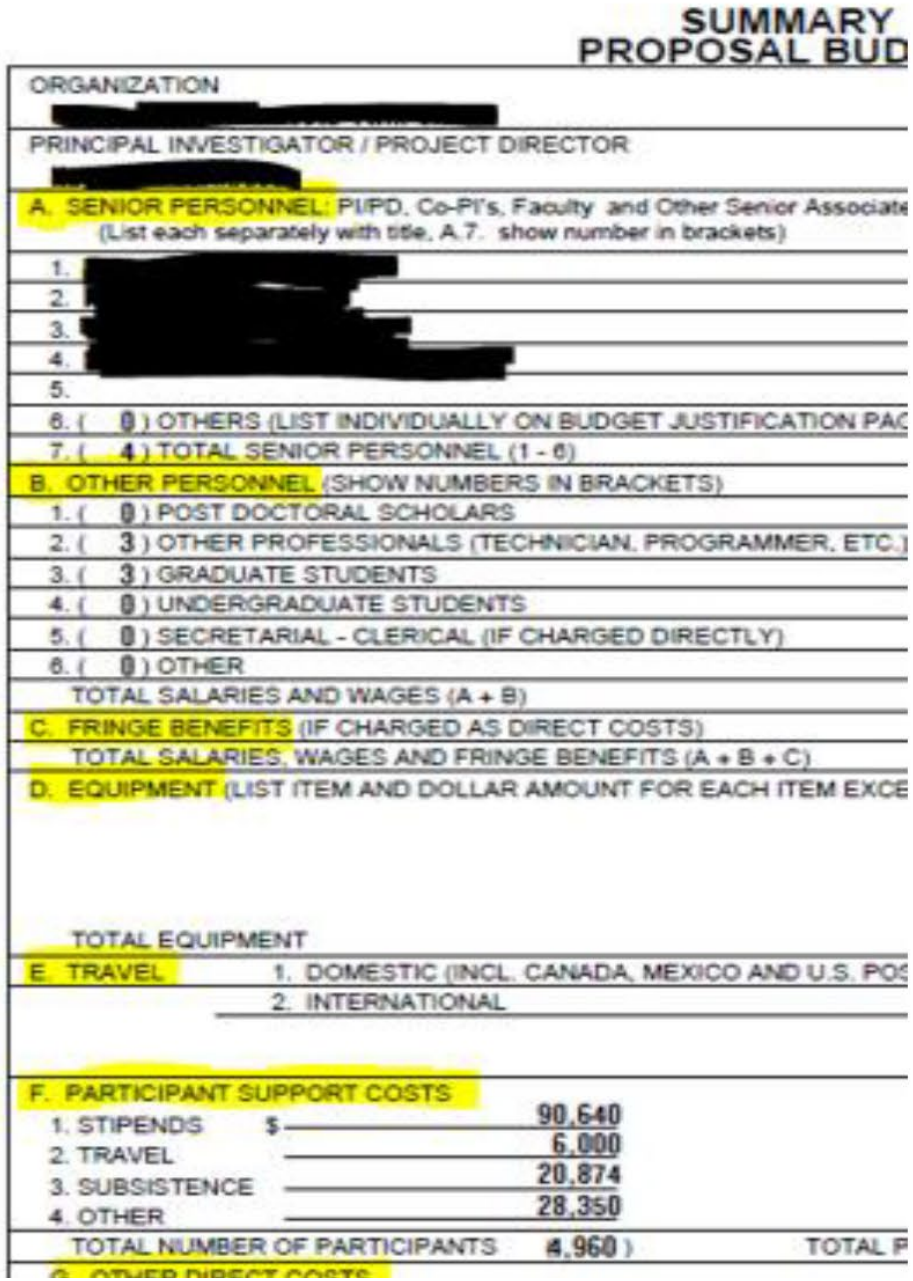
ORGANIZATION: Test Institution
PROPOSAL NO.
DURATION (mo) Proposed / Gran
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR
AWARD NO.

A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates	NSF Funded person-months CAL	ACAD	SUMR	Funds Requested By proposer	Fund granted by (if differ
1. Jane Smith - Chief Technical Officer	4.00	0.00	0.00	32,000	
2. John Doe - Senior Engineer	4.00	0.00	0.00	25,000	
3.					
4.					
5.					
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)	0.00	0.00	0.00	0	
(2) TOTAL SENIOR PERSONNEL (1 - 6)	8.00	0.00	0.00	57,000	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)					
	0.00	0.00	0.00	0	
2. (3) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)	10.00	0.00	0.00	38,000	
3. (0) GRADUATE STUDENTS				0	
4. (0) UNDERGRADUATE STUDENTS				0	
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)				0	
6. (0) OTHER				0	
				95,000	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)				19,000	
				114,000	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING $5,000.)					
				0	
E. TRAVEL 1. DOMESTIC (INCL. U.S. POSSESSIONS)				4,000	
				0	
F. PARTICIPANT SUPPORT COSTS					
2. TRAVEL 0					
3. SUBSISTENCE 0					
4. OTHER 0					
				0	
G. OTHER DIRECT COSTS					
				10,000	
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION				0	
3. CONSULTANT SERVICES				20,000	
4. COMPUTER SERVICES				0	
5. SUBAWARDS				40,000	
6. OTHER				2,000	
TOTAL OTHER DIRECT COSTS				72,000	
H. TOTAL DIRECT COSTS (A THROUGH G)				190,000	
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) Total Salaries and Wages (Rate: 20.0000, Base: 95000)					
TOTAL INDIRECT COSTS (F&A)				19,000	
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)				209,000	
K. SMALL BUSINESS FEE (IF REQUESTED MAXIMUM = 7% OF J)				14,630	
L. TOTAL COST AND FEE (J + K)				223,630	

PI/PD NAME: Jane Smith
ORG. REP. NAME*

FOR NSF USE ONLY
INDIRECT COST RATE VERIFICATION
Date Checked | Date Of Rate Sheet | Initials -

1 *ELECTRONIC SIGNATURES REQUIRED ONLY FOR REVISED B



SUMMARY
PROPOSAL BUD

ORGANIZATION
[redacted]

PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR
[redacted]

A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associate
(List each separately with title, A.7. show number in brackets)

1. [redacted]
2.
3.
4.
5.
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAC
7. (4) TOTAL SENIOR PERSONNEL (1 - 6)

B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)
1. (0) POST DOCTORAL SCHOLARS
2. (3) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)
3. (3) GRADUATE STUDENTS
4. (0) UNDERGRADUATE STUDENTS
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)
6. (0) OTHER
TOTAL SALARIES AND WAGES (A + B)

C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)

D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCE

TOTAL EQUIPMENT

E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POS
2. INTERNATIONAL

F. PARTICIPANT SUPPORT COSTS
1. STIPENDS $ 90,640
2. TRAVEL 6,000
3. SUBSISTENCE 20,874
4. OTHER 28,350
TOTAL NUMBER OF PARTICIPANTS 4,960) TOTAL P

G. OTHER DIRECT COSTS

A. Senior Personnel

B. Other Personnel

C. Fringe Benefits

D. Equipment

E. Travel

Budget Justification

A. Senior Personnel

A1. a;sldkjfa;sdlkjfas;dlkfjas asdklfj;aslkdjfa;lksdfj;aslkdjfa;slkdjfa;klsdjfa;lksdjf;alskdjf;laskdjf; alksdjf;alskdjf;laksdjf;laksdjf;slkdjf;lksdjflksdjfal;sdkjf;alskdjfdfkla jsdf;laksjdf;lkasjdf;lkasdj

B. Other Personnel

B.2.

;slkdjf;alksjdflaskdjf;askdljf;aslkdjf;laskdjf;aklsdjf;askldjfaksdjf;ask ldjf;alksdjf;aslkdjf;alksdjf;alksdjf;alksdjf;alkdsjf;alskdjf;aslkdjf;

B.3.

;slkdjf;alksjdflaskdjf;askdljf;aslkdjf;laskdjf;aklsdjf;askldjfaksdjf;ask ldjf;alksdjf;aslkdjf;alksdjf;alksdjf;alksdjf;alkdsjf;alskdjf;aslkdjf;

C. Fringe Benefits

a;slkdjf;askdljfas;ddskjlfa;lsdkjfa;slkdjf;lkasjdf;laksdjf;aksdf;alkdjf; asdk

D. Equipment

Aslkdjfa;sldkjf

E. Travel

B. OTHER PERSONNEL

Postdoctoral Fellow. [redacted] will serve as the postdoctoral fellow. The postdoctoral fellow is budgeted for 12 calendar months per year at a starting salary that represents a 3% increase from her current salary at Loyola University Chicago. The postdoctoral fellow will work closely with the PIs and other staff on all aspects of the work. She will take a lead role in our efforts to recruit Latine families. As a native Spanish speaker, she will help to translate materials to Spanish, and facilitate the recruitment, data collection and analysis efforts with Spanish-speaking families. She will work with other team members to execute linguistically detailed analyses in both English and Spanish. She will help select and supervise Spanish-English bilingual students who will become involved in the work. Dr. [redacted] will take a lead the development of coding systems and other data analytic approaches, as well as playing a major role in dissemination.

Project Coordinator/Bilingual Translator. The part-time project coordinator will work closely with other team leads. The project coordinator will be a native Spanish speaker responsible for the day-to-day management of the project, including supervising schedules for the research activities (e.g., scheduling data collectors) and serving as the lead data collector and lead translator. The project coordinator will also help with budget management and IRB compliance.

Graduate Student Research Assistant. Stipend is requested for 1 Graduate Student Research Assistant in Years 1-3, who will assist with the project at 100% effort (9 calendar months) for the academic year. Funds are also requested to support 1 Graduate Student Research Assistant in Year 1-3 for summer 100% effort (3 calendar months per student). The graduate student will be a native Spanish speaker who will carry out data collection activities, assist with coding and data analytic tasks in the museum and laboratory; meet with undergraduates to monitor progress; prepare manuscripts and present findings to advance dissemination efforts.

E. Travel

Domestic Travel

Local Travel for Data Collection. We budget for a portion of the costs associated with travel by the research team to [redacted] Community Learning Center and Chicago Children's Museum (CCM) for meetings, events, data collection and dissemination efforts.

Local Travel – [redacted] *Community Learning Center (CLC).* Mileage: We plan for 18 trips per year to the CLC. The mileage roundtrip LUC to CLC is @ 24 miles/roundtrip and we budget for a 3% increase per year in the mileage rate: Year 1 ($0.67/mile): $289, Year 2 ($0.69): $298, Year 3 ($0.71/mile): $307. We anticipate free parking. Total local travel – CLC: $895.

Local Travel – Chicago Children's Museum (CCM). Mileage: We plan for 50 trips to CCM in Year 1 (5 days a week of data collection for 10 weeks late June- late August) and 70 (5 days a week for 12 weeks early June- late August) in Years 2 and 3. The mileage roundtrip LUC to CCM is @ 16 miles/roundtrip and we budget for a 3% increase per year in the mileage rate: Year 1 ($0.67/mile): $536, Year 2 ($0.69/mile): $773, Year 3 ($0.71/mile): $796. Parking at Navy Pier: Based on 50 days in Year 1 and 70 days in Years 2 and 3: Year 1 ($15/day): $750, Year 2 ($20/day): $1,400, Year 3 ($25/day): $1,750. Total local travel – CCM: $6,005.

Local Travel Total: Year 1: $1,575; Year 2: $2,471, Year 3: $2,853. Y1-Y3: $6,900.

F. PARTICIPANT SUPPORT
All families with children in the 5-8 year-old age range from [redacted] Community Learning Center will be invited to visit the museum in the summer of Years 1, 2 and 3. Families will participate in the public programming generated through the Co-Design Process at [redacted] and provide feedback. While bus transportation is budgeted for by the sub-awardee ([redacted] the museum will also purchase parking vouchers for families who opt to drive themselves to the museum. Prior experience in hosting community field trips to the museum has shown that families prefer to have two options for transit depending on their circumstances. Funds are requested for 50 parking vouchers per year ($30/voucher x 50 = $1,500 in Years 1, 2 and 3) totaling $4,500.

F. Participant Support (# of participants)

1. **Stipends:** Add itemization & rationale details
2. **Travel:** Bus cards/fare, other travel
3. **Subsistence:** Refreshments for programming during mealtime; working meals if necessary—avoid dinners if travel is not involved
4. **Other:** Childcare; workshop registration

Participant Support Budget Justification

F1 Stipends

- $XXX for educator participation in Professional Learning (40hrs learning series); $XX pp (40hrs x $X/hr) x 10 people Y1 and 60 people Y2&3

F2 Travel

- $XXX requested for travel to participate in-person portion of Professional Learning Y1&2

Travel to San Francisco for Professional Learning Experience, 2days/3nts, 40p (Y1&2): 20 by air; 20 by car	Total Y1&2
Airfare: $350/person x 20 people	$7,000
Mileage: avg 280 mi rt @$0.55/mi x 20 people	$3,080
M&I not covered at workshop: $30pp x 40 people	$1,200
Lodging: $270/night x 3 nights x 40 people	$25,200
Air travel parking & ground transportation: $150pp x 20 people	$3,000

Explain compensation rate

Specify location & purpose

GSA.gov

F3. Subsistence

During the convening in Boston, participants are budgeted for a working breakfast (with agenda) @$X per person and a working lunch (with agenda) @$X per person ($X/person per day x 2 days = $X/participant x 44 participants = $X)

*per diem meal costs estimated based off of 2019 per diem rates for Boston/Cambridge from GSA.gov; lodging costs are estimated based on rates negotiated by PI institutions with local hotels.

For youth programs, refreshments at $4/person are requested as….

F4. Other

Childcare is likely needed for X people for X days, at $X/hour….

Participant Support Budget Justification

Specify location & purpose

Itemize expense estimates

GSA.gov

G. Other Direct Costs

G1. Materials and Supplies. Materials and supplies necessary to design, implement, and analyze the project including: (1) Dedicated laptop and tablet computers (Year 1: $6,000) for data collection and data coding and analysis efforts. (2) Recording equipment for use when interviewing parents and observing families at home/community centers for Study 1, and for recording the Workshops in Study 2 (Year 1: $2,400). Total Year 1: $8,400.

G6. Other Costs.

Participant Payment. All families will receive cash or cash card incentives for their participation in the research: Study 1a $20, Study 1b $25, Study 2 $15. We budget for 45 participants in Year 1, 25 in Year 2 participating in Study 1, and 20 in Year 2 and 20 in Year 3 participating in Study 2.

Overall, the participant payment totals in: Year 1:$2,025, Year 2: $1,425, Year 3: $300.

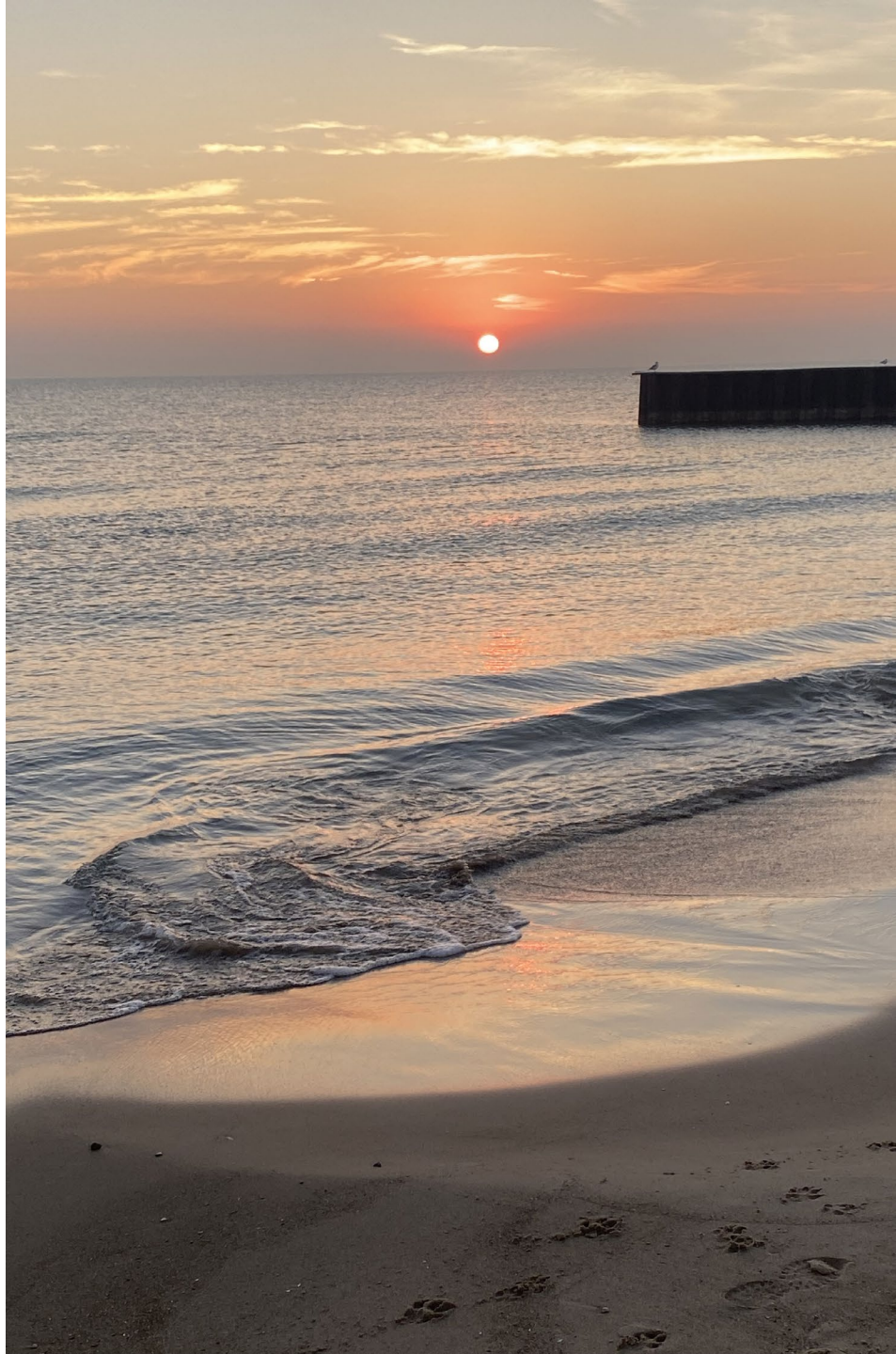
Y1-Y3 Total: $3,750.

Museum Fees. Fees to be paid to the Chicago Children's Museum are budgeted at $10,000 in Year 1, $15,000 in Year 2, and $20,000 in Year 3. These fees are higher in the last two years when in addition to administrative and staff time to support participant recruitment, the fees will cover the use of space at the museum for the Workshops. Total Y1-3: $45,000

	Proposal submission with Subaward(s)	Collaborative Proposal Submissions
	Submission of a single proposal and one overarching budget, by **lead organization**	Single project proposal submission by **two or more organizations** for various parts
Components	One Project Description; **one all-inclusive budget** with Subawards on G.5	One Project Description; **multiple *separate* budgets**.
Submission	Lead organization submits the proposal that includes separate budget documents for each subaward (budget and budget justification of no more than 5 pages)	Each collaborative organization submits the proposal, but if one misses the deadline then all linked proposals returned without review
PI/Co-PI	PI from lead organization, include co-PI as appropriate and may be lead personnel from subawardee(s)	PI from each collaborative organization, include co-PI as appropriate
Budget flexibility	Funds may be moved as project progresses, both in terms of amounts and to different organizations as needed	Funds **cannot** move back and forth among collaborating institutions.
Fund disbursal	Grant funds disbursed to the Lead org, which in turn pays its subawardee(s)	Grant funds disbursed to each collaborative organization
Annual Report	Lead organization submits annual report each year, include information from subawardees	Each organization submits an annual report each year

Making a Great First Impression

- Specific Aims (NIH)
- Project Summary (NSF)
- First page of any proposal!



The First Page

- The first page of a proposal is arguably the most important
- It is the template or master plan for the rest of the project
- It should include everything about your proposal that is important and exciting – without the detail
- It should be written to create connection with the reviewers
- ***Think:*** Most of the panel/study section will only read the Specific Aims/Project Summary

PROJECT SUMMARY

Overview:

This 3-year, Level 3 proposal for Research on Broadening Participation in STEM (Track II) is designed to increase understanding of the ways that Latine families with preschoolers read and tell stories about science. Our goal is to identify cultural strengths that support early engagement with scientific ideas and science practices in this underrepresented and growing population. Employing mixed-methods, we will interview and observe Latine families with 3- to 5-year-olds from three cities (New York, Chicago, San Jose, CA). First, an interview study will address the research aim of uncovering Latine families' everyday science stories (Study 1a), describing ways in which conversations about science and nature (e.g., life, earth, and space sciences) occur in Latine children's daily lives. Next, we will observe the same Latine families' talk about science practices during shared book reading of narrative and expository texts, when telling personal narratives, and with adivinanzas (riddles) as prompts - to address our second aim of advancing understanding of how Latine families talk about science when reading and engaging in oral routines (Study 1b). Finally, we will address the aim of learning how Latine families' science stories can be a source of culturally sustaining educational practices (Study 2). Across preschool and museum Ciencia en Relatos (Science in Stories) Workshops, we will compare oral and book (narrative, expository) versions of science-rich stories authored by families in Study 1, to consider how these resources are evaluated by other Latine families and can be best used to foster early science learning opportunities that can broaden participation in STEM.

Intellectual Merit:

Given continuing concerns about underrepresentation of Latine students in STEM fields (NSF, 2019), research is needed that focuses on their earliest engagement with science topics and practices in everyday interactions. Building on growing interest in the ways that stories can promote engagement in and understanding of science, our work will provide data on the role of stories as potentially powerful tools for making scientific ideas and inquiry practices meaningful and accessible. Rather than basing generalizations about everyday science on research with middle-class European-Americans, we will study the diverse experiences of children from a broad group of Latine families. Sharing stories, personal narratives, and adivinanzas (riddles) with young children is ubiquitous in the lives of Latine families, firmly rooted in Latin American oral traditions. By advancing knowledge about what these understudied practices look like in Latine families' daily lives, we will take important steps toward understanding how these practices may serve as strengths to support early science learning among Latine children.

Broader Impacts:

Although developmental science has long acknowledged that early learning is culturally situated, most research on early STEM is still informed by mainstream experiences that largely exclude the lived experiences of children from groups underrepresented in STEM, especially those who speak languages other than English. Our work will result in evidence-based and field-tested books and oral stories drawn from ones told by Latine families that can be used to stimulate conversations about science practices with Latine children. The research will inform the development of high quality, equitable informal and formal science educational opportunities for young children. Additionally, the project will contribute to the science training of student researchers from groups underrepresented in STEM, and the results will be widely disseminated to academic and non-academic audiences.

Outline of Specific Aims (NIH First Page)

- Paragraph #1-2: **Overview of Problem and Research Gap**
  - **Begins with a Hook** (1-2 sentences) – interest grabbing, explaining WHAT your topic is
  - **What is known** (3-4 sentences) Summary of prior studies on this topic and how the previous research is limited (i.e., the **research gap**)
  - **Establish the problem**: Why is it a problem? What is the specific gap in knowledge (remaining research question)? Why is it critical to fill the gap? – what will be possible after the research is conducted
- Paragraph #2: **Establish the Solution**
  - How are you going to answer the question? What is the long-term goal of the proposal?
  - What are the new data or advances your project brings?
  - What is your central hypothesis?
- Paragraph #3: **Synopsis of Study Methods**
  - Summarize the study design, sample size, measures, and time period of measurement/follow up (if relevant)
  - Mention any related preliminary studies
- Paragraph #4: **List of Aims and Hypotheses**
- Final Paragraph: **Summary of innovation, expected outcomes, impact/pay-off**

Common Problems on Aims Page

- Too much detail – think about what the key factors are that you want the reviewer to know.
- Gap in knowledge not apparent.
- Gap in knowledge not appreciably important or significant.
- Too much complexity – too much jargon.
- Unfocused aims – too diffuse.
- Interdependent aims – success with Aim 1 needed to advance to Aim 2.

NSF First Page = Project Summary

- **Overview**
  - Identify the problem. Identify the knowledge gap. State your overall objective. What will be possible because your project happens.
  - State aims/objectives/questions
  - Why is what you are proposing new, important, potentially transformative
- **Intellectual Merit**
  - What is the novel contribution to your field?
  - What will your research contribute to the state of knowledge and advance the field?
  - Why will your contribution be transformative?
- **Broader Impacts**
  - What are the desired societal outcomes?
  - Describe how the BI activities will result in advancement;
  - Summarize the dissemination and communication plan

Overview

- The opening sentence(s) must be an interest-grabber
- Pay attention to solicitation requirements for elements that need to be in the first sentence
- Super brief – like an Abstract

Overview:

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Broader Impacts

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Merit Review Criterion

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to
   a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
   b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Methods and Workplan

Goal 1: Overall Goal of the Project/Program			**Accountable:** One person who owns the work (approves/decides)
Objective 1: Major milestone or body of work to accomplish the project/program *And/or list…* **Outcome 1:** Expected changes in behaviors, skills, knowledge or circumstances within a defined amount of time			
Activities	**Outputs**	**TimeLine**	**Responsible**
1. Major task that the program will complete	Specific types & quantities of services to be delivered within a set timeframe	When the activities will occur	Who will do the work
2. Major task that the program will complete	Specific types & quantities of services to be delivered within a set timeframe	When the activities will occur	Who will do the work
3. Major task that the program will complete	Specific types & quantities of services to be delivered within a set timeframe	When the activities will occur	Who will do the work

Timeline

Task	Year 1			Year 2			Year 3		
Major Milestones	1	2	3	1	2	3	1	2	3
Collaboration									
Team meetings									
Advisory board meetings									
Field-testing with Partner Institutions									
Data collection and processing									
Museum-based DBR									
Memory follow-ups									
Data processing, coding, reliability, data entry, analyses									
Dissemination									
Dissemination to the research community									
Dissemination to practitioners									

Data Management Plan

- Data That Will Be Produced
- Standards and Formats for Data Files
- Data Access, Security, and Sharing
- Policies and Provisions for Re-Use, Re-Distribution, and the Production of Deliverables
- Archiving and Preservation

Data That Will be Produced

Data Management Plan

The Data Management Plan for this collaborative project has been developed based on the EHR Principles and Guidance (https://www.nsf.gov/bfa/dias/policy/dmpdocs/ehr.pdf), as well as NSF policies and regulations. Drs [redacted] will together lead and take responsibility for executing the plan so as to ensure data access, security, and sharing.

1. Data That Will be Produced

The project will yield the following types of data:

a. Audio and video recordings of children and their parents participating in interviews and story- and narrative-related activities at home, preschools, museums, and libraries.
b. Exported audio and video files.
c. Surveys of parents to capture demographic information (e.g., ethnicity, education level, employment, etc.) and family practices.
d. Digital photographs.
e. Transcripts of interviews, and parent-child conversations.
f. Digital codings (Noldus, ELAN, CHILDES, ATLAS-ti) of recordings of interviews and conversations.
g. Codebooks that explain the coding systems and include examples.
h. Empirical summaries (e.g., means, standard deviations, graphs, etc.) of the codings.

Data Access, Security, and Sharing

3. Data access, security, and sharing

We will not produce any proprietary software for this project. All executable formats will be in the format in which they are sold or offered for free, e.g., Noldus, CHILDES, MS Office, etc. Dr[redacted]t Loyola will be responsible for ensuring data access, security, and sharing. All data, codebook, and program files will be stored electronically permanently on Loyola University Chicago servers (i.e., Microsoft OneDrive), and some temporarily via iCloud for data collected on Apple devices at off-site locations (e.g., community and museum locations) before moving to Loyola servers. Servers are maintained and routinely backed up by University IT staff. Only the research team will have access to confidential data. All team members involved in research activities will be included in IRB protocols, and they will be appropriately trained and certified (i.e., CITI online course). Further, all computers and devices used to access data will be password protected.

During the consent process, parents will be asked for their permission to share the video and audio recordings with other educators, museums, and investigators for the purpose of dissemination. They can choose whether to share or not, and whether educators/museums/investigators can show excerpts from their recordings to the public. Each electronic and paper record will be identified only by ID number, and never linked publicly to any photograph or video record.

Re-Use and Preservation

4. Policies and Provisions for Re-Use, Re-Distribution, and the Production of Derivatives

Once the data have been collected, processed and analyzed to address our research questions, we will make de-identified data available to other researchers who request it. We will make available via the Internet all data that could not reveal the identity of individual subjects, including the transcriptions, codebook, codings, and summaries. Initially, public access to the data will be granted through the PIs websites. We will work with experts in IT to develop optimal metadata to increase the chances of search engines finding our sites. We will raise awareness of the accessibility of the data through our project page on informalscience.org, as well.

We may also be able to share any transcripts produced, and one existing possibility that we will explore is Talkbank, which maintains archives of records of child language and conversations.

The books and story prompts that we produced in the course of this project will be made freely available via our websites.

5. Archiving and Preservation

We will apply to our IRBs to allow us to keep all records, including videos and photographs for at least 10 years following the conclusion of the grant award. If any of the PIs were to leave their current institution for another, the data would transfer with the PI. The de-identified data will be archived with professional organizations or publishers, as such archives are becoming increasingly available. The latter will allow for a recovery plan. Standards and formats of data files will be uploaded as needed to ensure accessibility of data files.

Appendices

- Letters of Support
  - Follow guidelines!

LOYOLA UNIVERSITY CHICAGO

Catherine A. Haden, Ph.D.
Department of Psychology
1032 W. Sheridan Road, Chicago, Illinois 60660
(773) 508-8226 | Fax (773) 508-8713
chaden@luc.edu

January 9, 2023

[redacted]

Dear [redacted]

If the proposal you are submitting entitled **Co-Designing Media to Foster Joint Peer-to-Peer Engagement, Promote Engineering Learning, and Expand Reach with PBS KIDS's Team Hamster!** is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description.

Sincerely,

Catherine A. Haden
Professor
Loyola University Chicago

Highly Competitive **Proposals...**

- Tell a good story.
- Give them what they want.
- Have a feasible work plan with an appropriate budget.
- Advance equity.

Good Luck!

- There is no simple formula for successful grant writing.
- The road to funding is paved with well constructed proposals that follow the solicitation guidelines.
- Remember the importance of persistence.

Resources

Google Drive Folder

Feel free to add your own!
I'll add things that are requested by the group to this folder!